

Japanese Spiders of the Genus *Hersilia* (Araneae: Hersiliidae)

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谷川明男¹⁾: 日本産ナガイボグモ属のクモ類 (クモ目: ナガイボグモ科)

Abstract Two species of the genus *Hersilia* are recognized to occur in Japan, that is, *Hersilia okinawaensis* sp. nov. and *H. yaeyamaensis* sp. nov. The previous records of *Hersilia savignyi* Lucas, 1836 from Japan were considered as misidentifications.

Kishida (1959) recorded *Hersilia savignyi* Lucas, 1836 from Okinawa, Japan. He listed its specific name but did not show any figures or more information. Ikehara & Shimojana (1975) stated that *H. savignyi* is living at Iriomotejima Island and Ishigakijima Island, Japan. They showed the photograph of the dorsal view of the spider on the tree trunk. Judging from the photograph, the spider is truly hersiliid spider, but I cannot make sure the specific name due to the lack of the figures of the genital organs. Yaginuma (1986) recorded *Hersilia clathrata* Thorell, 1895 from Okinawa, Japan. He showed only dorsal view of cephalothorax and no figures of genital organ. In 1993, Baehr & Baehr revised the hersiliid spiders of the Oriental Region including New Guinea. Their great work clarified the taxonomic positions of 35 hersiliid spiders described from the region other than 9 doubtful species. They synonymized *H. clathrata* with *H. savignyi*.

Through the fieldwork at Okinawajima Island and Iriomotejima Island, I collected many specimens of hersiliid spiders. After examining these specimens, I recognized two species, one from Okinawajima Island and the other from Iriomotejima Island. As I could not find any *H. savignyi* among these specimens, it appears that all of the previous records of *H. savignyi* from Okinawajima and Yaeyama Islands were misidentifications. These two species, from Okinawajima Island and Iriomotejima Island, are both new to science, and will be described as new species in the present paper.

All the type specimens designated in this paper are deposited in the collection of the Zoological Department of National Science Museum, Tokyo.

I wish to express my hearty thanks to Dr. Tadashi Miyashita, University of Tokyo, for critical reading of the manuscript of this paper. I am deeply indebted to Mr. Takeshi Sasaki, University Museum of the Ryukyus, for supporting my fieldwork at Okinawajima Island. My sincere thanks are also due to Mr. Kenta Teruya, University of the Ryukyus, offering the specimen used in this study.

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Family Hersiliidae
Genus *Hersilia* Savigny et Audouin, 1827

Hersilia Savigny & Audouin, 1827, p. 318 (type species: *Hersilia caudata* Audouin, 1827).

For diagnosis and further information, see Baehr & Baehr (1993).

Key to the Japanese species

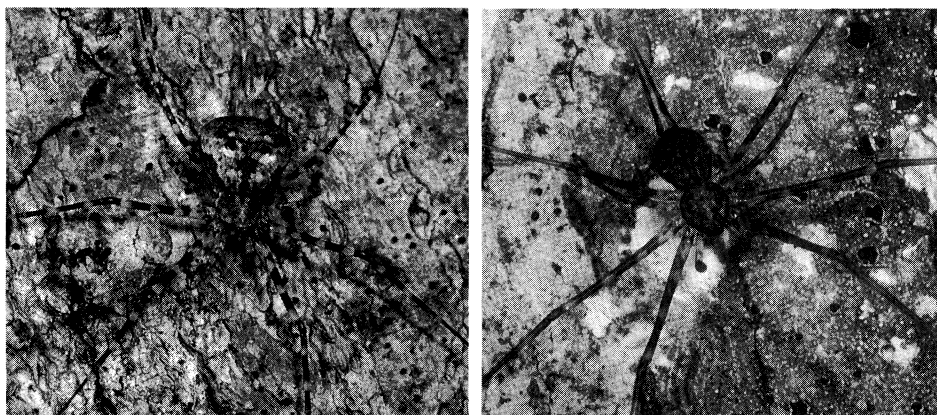
1. Female2.
—Male3.
2. Ventral spermatheca slender (Fig.7)*H. okinawaensis* sp. nov.
—Ventral spermatheca swan-head shaped (Fig.16)*H. yaeyamaensis* sp. nov.
3. Tip of embolus straight (Fig.5)*H. okinawaensis* sp. nov.
—Tip of embolus bent (Fig.14)*H. yaeyamaensis* sp. nov.

***Hersilia okinawaensis* sp. nov.**

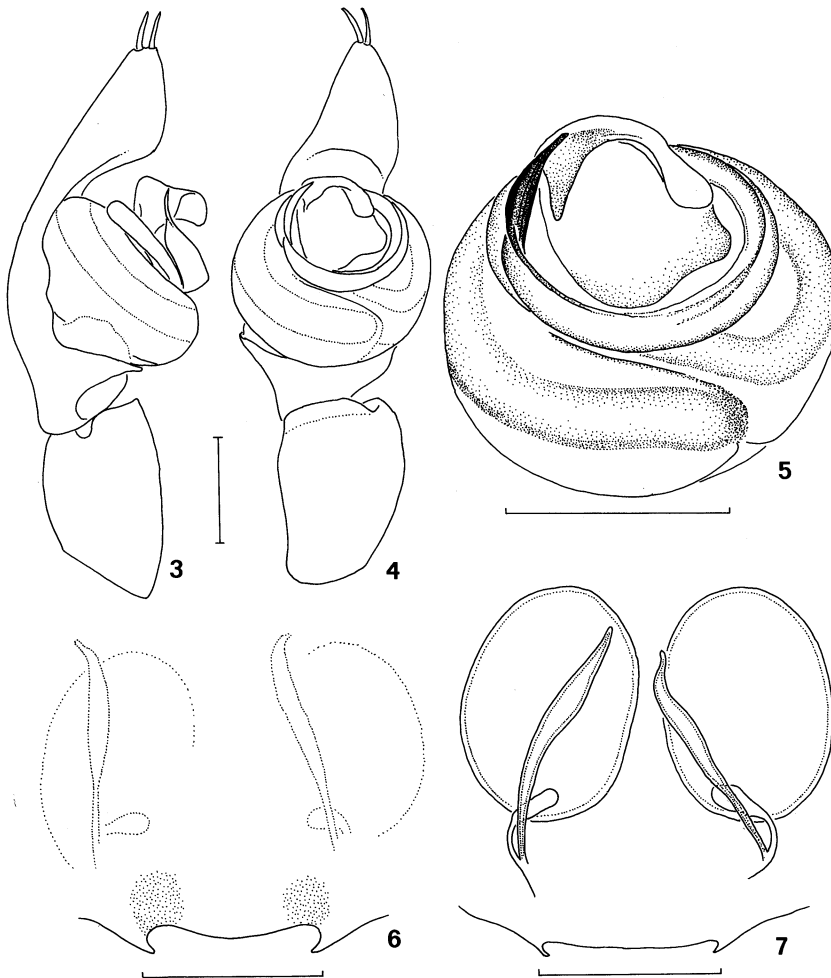
(Figs.1-7)

Specimens examined. Type series. Holotype: ♀, Mt. Yonahadake, Okinawajima Island, Okinawa prefecture, Japan, 23-VII-1999, A. Tanikawa leg. Allotype: ♂, same data as the holotype. Paratypes: 1 ♂, Yona, Okinawajima Island, Okinawa Prefecture, Japan, 4-VII-1999, K.Teruya leg.; 2 ♀ 1 ♂, same data as the holotype.

Description [based on the female holotype and male allotype, variations among the type series are given in the parentheses]. Measurement (in mm). Total length ♀ 6.85 (5.29-6.85), ♂ 4.30 (4.30-5.44); carapace length ♀ 2.61 (2.25-2.61), ♂ 1.78 (1.78-2.31); width ♀ 2.40 (2.25-2.54), ♂ 1.64 (1.64-2.20); abdomen length ♀ 3.82 (2.97-3.84), ♂ 2.41 (2.41-3.12), width ♀ 3.60 (2.87-3.68), ♂ 1.88 (1.88-2.53). Leg length [female holotype/male allotype; tarsus + metatarsus (distal part, basal part)+tibia+patella+femur=total]: I, 0.76+7.35 (3.09, 4.26)+4.71+0.94+5.29=19.05/0.69+7.06 (2.56,



Figs. 1-2. *Hersilia okinawaensis* sp. nov. —1 (left), Female on tree trunk; 2 (right), male on tree trunk



Figs. 3-7. *Hersilia okinawaensis* sp. nov. — 3, Outline of male left palp, prolateral view (allotype); 4, same, ventral view (allotype); 5, central part of male left palp, ventral view (allotype); 6, epigynum, ventral view (holotype); 7, same, cleared (one of the paratypes). (Scales: 0.25 mm.)

4.50)+4.56+0.72+4.78=17.81; II, 0.74+7.68 (3.24, 4.44)+4.94+0.88+5.41=19.65/0.69+6.67 (2.56, 4.11)+4.61+0.69+4.44=17.10; III, 0.65+1.71+1.53+0.68+2.21=6.78/0.50+1.47+1.25+0.50+1.78=5.50; IV, 0.74+6.32 (2.38, 3.94)+4.00+0.82+4.68=16.56/0.64+5.42 (1.95, 3.47)+3.50+0.58+3.78=13.92.

Female. Carapace length/width 1.09 (1.00-1.09); median ocular area length/width 0.95 (0.95-0.98), anterior width/posterior width 0.98 (0.95-0.98); chelicera with 3 teeth on anterior margin and 7-8 minute teeth on posterior margin; labium length/width 0.71 (0.71-0.77); sternum length/width 0.95 (0.93-0.99); length of leg I/length of carapace 7.30 (7.19-7.56). Abdomen length/width 1.06 (1.03-1.06), epigynum as in Fig.

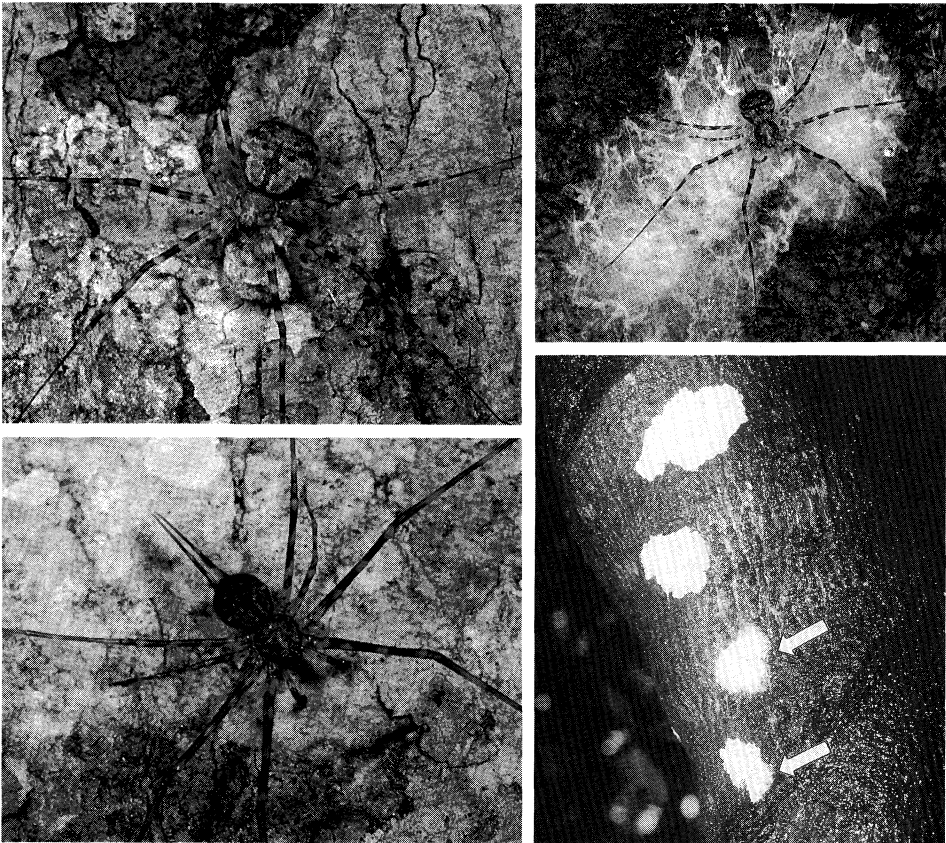
6, ventral spermatheca slender (Fig. 7).

Male. Carapace length/width 1.09 (1.05–1.09); median ocular area length/width 0.94 (0.94–1.00), anterior width/posterior width 0.97 (0.97–1.03); chelicera with 3 teeth on anterior margin and 6–8 minute teeth on posterior margin; labium length/width 0.68 (0.59–0.68); sternum length/width 0.87 (0.87–0.96); length of leg I/length of carapace 10.01 (10.01–12.39). Palp as in Figs.3–5. Abdomen length/width 1.29 (1.23–1.38).

Coloration and markings in alcohol. Female and male. Carapace pale yellow mottled with dark green, with a white marking behind the eye area. Legs pale yellow, with dark green annulations. Abdomen dark green mottled with black and white. When living, the color of body very similar to that of the tree trunk where it lives (Figs. 1–2).

Range. Japan (Okinawajima Island).

Remarks. *H. okinawaensis* sp. nov. closely resembles *H. yaeyamaensis* sp. nov., but can be distinguished from the latter by the shape of ventral spermatheca and the shape



Figs. 8–11. *Hersilia yaeyamaensis* sp. nov. — 8 (top left), Female on tree trunk (holotype); 9 (bottom left), male on tree trunk (allotype); 10 (top right), female protecting her egg sacs; 11 (bottom right), egg sacs (arrows) laid on tree trunk.

of the tip of embolus. The ventral spermatheca of *H. okinawaensis* is slender, but that of *H. yaeyamaensis* is swan-head shaped (Figs. 7, 16). The tip of embolus is straight in *H. okinawaensis* but bent in *H. yaeyamaensis* (Figs. 5, 14). This new species as well as the following new species belong to the *albomaculata*-group according to "the key to the species-group" made by Baehr & Baehr (1993).

Etymology. The specific name derived from the native island of the species.

***Hersilia yaeyamaensis* sp. nov.**

(Fig.8-16)

Specimens examined. Type series. Holotype: ♀, Sonai, Iriomotejima Island, Okinawa Prefecture, Japan, 31-III-1999, A. Tanikawa leg. Allotype: ♂, same data as the holotype. Paratypes: 1 ♂, Funaura, 31-VII-1991; 1 ♀, 30-XII-1985, 1 ♂, 29-XII-1986, Komi; 1 ♀, 4-V-1984, 1 ♀, 30-XII-1986, 1 ♂, 28-III-1987, 1 ♀, 29-XII-1990, Otomi; 1 ♀ 1 ♂, Ohara, 1-I-1991; all the paratypes were collected from Iriomotejima Island, Okinawa Prefecture, Japan, by A. Tanikawa.

Other specimens examined. 9 ♀ 12 ♂ from Iriomotejima Island, Okinawa Prefecture, Japan.

Description [based on the female holotype and the male allotype, variations among type specimens are given in the parentheses]. Measurement (in mm). Total length ♀ 5.80 (4.90-5.80), ♂ 4.60 (3.84-5.06); carapace length ♀ 2.02 (1.94-2.16), ♂ 2.11 (1.73-2.13); width ♀ 1.98 (1.90-2.11), ♂ 2.00 (1.62-2.00); abdomen length ♀ 3.40 (2.74-3.40), ♂ 2.45 (2.04-2.93), width ♀ 2.90 (2.43-2.90), ♂ 2.00 (1.58-2.17). Leg length [female holotype/male allotype; tarsus + metatarsus (distal part, basal part) + tibia + patella + femur = total]: I, $0.65 + 5.73$ (2.38, 3.35) + $3.65 + 0.80 + 4.05 = 14.88/0.77 + 10.85$ (3.85, 7.00) + $7.38 + 0.85 + 6.77 = 26.62$; II, $0.65 + 5.90$ (2.45, 3.45) + $3.80 + 0.75 + 4.05 = 15.15/0.77 + 9.62$ (3.46, 6.15) + $6.58 + 0.77 + 5.96 = 23.70$; III, $0.55 + 1.35 + 1.38 + 0.55 + 1.70 = 5.53/0.58 + 1.88 + 1.62 + 0.54 + 2.27 = 6.89$; IV, $0.63 + 5.03$ (1.90, 3.13) + $3.10 + 0.68 + 3.55 = 12.99/0.69 + 9.46$ (3.23, 6.23) + $6.58 + 0.81 + 6.00 = 23.54$.

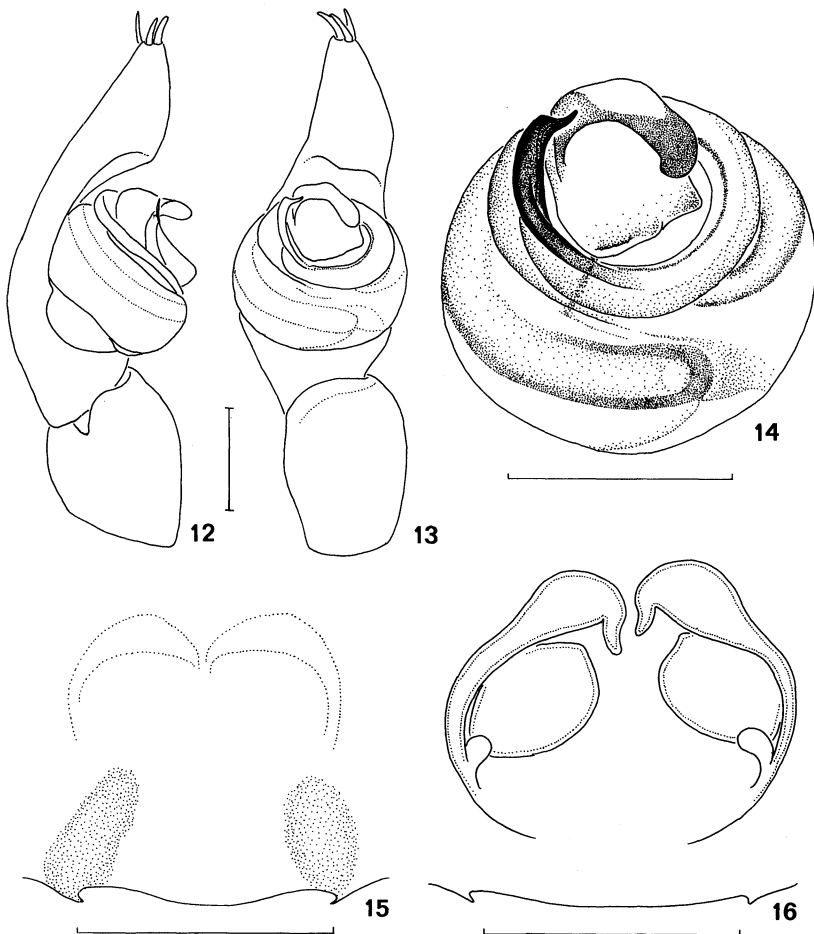
Female. Carapace length/width 1.02 (1.02-1.05); median ocular area length/width 0.89 (0.89-1.00), anterior width/posterior width 1.01 (1.01-1.05); labium length/width 0.79 (0.63-0.79); sternum length/width 0.87 (0.87-0.95); length of leg I/length of carapace 7.37 (7.37-7.88). Abdomen (Fig.) length/width 1.17 (1.02-1.22), epigynum as in Figs.15-16.

Male. Carapace length/width 1.06 (1.05-1.07); median ocular area length/width 0.94 (0.93-0.95), anterior width/posterior width 1.06 (1.05-1.10); labium length/width 0.67 (0.57-0.74); sternum length/width 0.88 (0.86-0.93); length of leg I/length of carapace 12.62 (10.45-13.30). Palp as in Figs. 12-14. Abdomen length/width 1.23 (1.23-1.48).

Coloration and markings in alcohol. Female and male. Carapace pale yellow mottled with dark brown, with a white marking behind eye area. Legs pale yellow with dark green annulations. Abdomen pale yellow mottled with dark green, black, and white. When living, the color of body very similar to the tree trunk where it lives (Figs. 8-9).

Range. Japan (Iriomotejima Islands).

Remarks. *H. Yaeyamaensis* sp. nov. closely resembles *H. okinawaensis*. As for the discriminating point, see remarks of *H. okinawaensis*. The female of *H. yaeyamaensis*



Figs. 12-16. *Hersilia yaeyamaensis* sp. nov. — 12, Outline of male left palp, prolateral view (allotype); 13, same, ventral view (allotype); 14, central part of male left palp, ventral view (allotype); 15, epigynum ventral view (holotype); 16, same, cleared (one of the paratypes). (Scales: 0.25 mm)

lay her egg-sacs on tree trunk as in Figs. 10-11.

Etymology. The specific name is derived from the archipelago which includes the native island of the species.

摘 要

沖縄島および西表島から得られた *Hersilia* ナガイボグモ属の2新種を *Hersilia okinawaensis* sp. nov. オキナワナガイボグモ (新称) および *Hersilia yaeyamaensis* sp. nov. ヤエヤマナガイボグモ (新称) と命名して記載した。過去、沖縄島や八重山諸島からは

Hersilia savignyi Lucas, 1836 ナガイボグモが記録されているが、いずれの島からもそれと同定することのできる標本が得られなかったので、いずれもの記録も誤同定であったと推定した。

References

- Baehr, M. & B. Baehr, 1993. The hersiliidae of the Oriental Region including New Guinea. Taxonomy, phylogeny, zoogeography (Arachnida, Araneae). *Spixiana* (suppl.), **19**:1-96.
- Ikehara, S. & M. Shimojana, 1975. Land Animals in Okinawa. 143pp. Fudokisha, Okinawa. (In Japanese.)
- Kishida, K., 1959. Acerata. In An Annotated List of Animals of Okinawa Islands. pp. 367-384. Okinawa Seibutu Kyoiku Kenkyu-kai, Okinawa. (In Japanese.)
- Lucas, H., 1836. Observations sur les Araneides du genre *Hersilia* et description de deux especes nouvelles appartenant a ce genre. Mag. zool. Guerin, 6, classe VIII, pp. 1-11, pl. XII-XIII. (Not seen.)
- Savignyi, J. C. & V. Audouin, 1827. Arachnides. In Explication sommaire des planches d'Arachnides de l'Egypte et de la Syrie. Vol. 22, pp. 291-430. Paris. (Not seen.)
- Thorell, 1895. Descriptive Catalogue of the Spiders of Burma. 406pp. British Museum, London.
- Yaginuma, T., 1986. Spiders of Japan in Color, (n. ed.). 305pp., 64pls. Hoikusha, Osaka. (In Japanese.)